

WHAT IS CLAIMED IS:

1. A steering shaft for an energy absorbing steering column, comprising:

a first shaft;

5 a second shaft fitted in the first shaft; and

a projection formed with the first shaft at a predetermined spot, wherein the projection protrudes inwardly from an inner surface of the first shaft.

10 2. The steering shaft as claimed in claim 1, further comprising a shank disposed adjacent to an end of the second shaft located in the first shaft, the shank having a smaller diameter than a maximum diameter of the end of the second shaft.

15 3. The steering shaft as claimed in claim 1, further comprising a pair of expansions formed on the second shaft, wherein the pair of expansions develops from an outer surface of the second shaft in a direction substantially perpendicular with respect to that of the projection.

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4. The steering shaft as claimed in claim 3, further comprising another projection formed with the first shaft at another predetermined spot, wherein the another projection protrudes inwardly from the inner surface of the first shaft.

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5. A method of manufacturing a steering shaft for an energy absorbing steering column, the method comprising:

preparing first and second shafts;

fitting the second shaft into the first shaft;

30 pressing the shafts at a predetermined spot, the shafts pressing

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creating a projection on the first shaft, wherein the projection protrudes inwardly from an inner surface of the first shaft; and

moving the first shaft and the second shaft in a relative manner in a direction of energy absorbing motion.

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6. The method as claimed in claim 5, wherein the shafts pressing also creating a pair of expansions on the second shaft, wherein the pair of expansions develops from an outer surface of the second shaft in a direction substantially perpendicular with respect to that of the projection.

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7. The method as claimed in claim 6, further comprising:
pressing the first shaft at another predetermined spot, the shaft pressing creating another projection on the first shaft, wherein the another projection protrudes inwardly from the inner surface of the first shaft; and
press-fitting the second shaft into the first shaft.

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8. A steering shaft for an energy absorbing steering column, comprising:

a first shaft comprising an engaging recess on an inner peripheral surface;

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a second shaft comprising an engaging protrusion on an outer peripheral surface in an end portion, the second shaft being fitted in the first shaft;

a shank disposed adjacent to the end portion of the second shaft, the shank having a smaller diameter than a maximum diameter of the end portion of the second shaft; and

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a depression formed with the first shaft, the depression being in press contact with the engaging protrusion of the second shaft, wherein a distance between the depression and a base end of the engaging protrusion forms a predetermined impact-energy absorbing stroke.

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9. A method of manufacturing a steering shaft for an energy absorbing steering column, the method comprising:

5 preparing a first shaft comprising an engaging recess on an inner peripheral surface;

10 preparing a second shaft comprising an engaging protrusion on an outer peripheral surface in an end portion and a shank adjacent to the end portion, the shank having a smaller diameter than a maximum diameter of the end portion, wherein the second shaft and the shank are connected through a chamfer;

fitting the second shaft into the first shaft, wherein at least the shank and part of the end portion of the second shaft reach the engaging recess of the first shaft;

15 creating a depression in the first shaft at a predetermined spot corresponding to the shank, wherein the depression is formed along a shape of the shank and the chamfer; and

20 moving the first shaft and the second shaft in a relative manner in a direction of energy absorbing motion, wherein a distance between the depression and a base end of the engaging protrusion forms a predetermined impact-energy absorbing stroke.

10. A steering shaft for an energy absorbing steering column, comprising:

25 a first hollow shaft;
a second hollow shaft fitted in the first shaft;
a first convex formed on the first shaft at a first predetermined spot, wherein the first convex protrudes inwardly from an inner surface of the first shaft;

30 a pair of expansions formed on the second shaft, wherein the pair of expansions develops from an outer surface of the second shaft in a

direction substantially perpendicular with respect to that of the first convex.

11. The steering shaft as claimed in claim 10, further comprising a second convex formed on the first shaft at a second predetermined spot,
 5 wherein the second convex protrudes inwardly from the inner surface of the first shaft.

12. A method of manufacturing a steering shaft for an energy absorbing steering column, the method comprising:
 10 preparing first and second hollow shafts;
 fitting the second shaft into the first shaft;
 pressing the first and second shafts at a first predetermined spot, the shafts pressing creating a first convex on the first shaft and a pair of expansions on the second shaft, wherein the first convex protrudes
 15 inwardly from an inner surface of the first shaft, wherein the pair of expansions develops from an outer surface of the second shaft in a direction substantially perpendicular with respect to that of the first convex;
 and
 press-fitting the second shaft into the first shaft at a first
 20 predetermined position.

13. The method as claimed in claim 12, further comprising:
 pressing the first shaft at a second predetermined spot, the shaft pressing creating a second convex on the first shaft, wherein the second
 25 convex protrudes inwardly from the inner surface of the first shaft; and
 press-fitting the second shaft into the first shaft at a second predetermined position.